

overrides located at the main navigating bridge control location, overrides of these safety trip controls are prohibited. Operation of permitted overrides must be alarmed at the navigating bridge and at the maneuvering platform or ECC, as applicable, and must be guarded against inadvertent operation.

(3) Remote propulsion control systems must be failsafe by maintaining the preset (as is) speed and direction of thrust until local manual or alternate manual control is in operation, or the manual safety trip control operates. Failure must activate alarms on the navigating bridge and in the machinery spaces.

[CGD 81-030, 53 FR 17838, May 18, 1988; 53 FR 19090, May 26, 1988]

#### § 62.35–10 Flooding safety.

(a) Automatic bilge pumps must—

(1) Be provided with bilge high level alarms that annunciate in the machinery spaces and at a manned control location and are independent of the pump controls;

(2) Be monitored to detect excessive operation in a specified time period; and

(3) Meet all applicable pollution control requirements.

(b) Remote controls for flooding safety equipment must remain functional under flooding conditions to the extent required for the associated equipment by § 56.50–50 and § 56.50–95 of this chapter.

(c) Remote bilge level sensors, where provided, must be located to detect flooding at an early stage and to provide redundant coverage.

#### § 62.35–15 Fire safety.

(a) All required fire pump remote control locations must include the controls necessary to charge the firemain and—

(1) A firemain pressure indicator; or

(2) A firemain low pressure alarm.

#### § 62.35–20 Oil-fired main boilers.

(a) *General.* (1) All main boilers, regardless of intended mode of operation, must be provided with the automatic safety trip control system(s) of paragraphs (h)(1), (h)(2)(i), (h)(2)(ii), and (i)

of this section to prevent unsafe conditions after light off.

(2) Manual alternate control of boilers must be located at the boiler front.

(3) A fully automatic main boiler must include—

(i) Automatic combustion control;

(ii) Programing control;

(iii) Automatic feedwater control;

(iv) Safety controls; and

(v) An alarm system.

(4) Following system line-up and starting of auxiliaries, fully automatic main boilers must only require the operator to initiate the following sequences:

(i) Boiler pre-purge.

(ii) Trial for ignition of burners subsequent to successful initial burner light-off.

(iii) Normal shutdown.

(iv) Manual safety trip control operation.

(v) Adjustment of primary control setpoints.

(5) All requirements for programing control subsystems and safety control systems must be met when a boiler—

(i) Automatically sequences burners;

(ii) Is operated from a location remote from the boiler front; or

(iii) Is fully automatic.

(6) Where light oil pilots are used, the programing control and burner safety trip controls must be provided for the light oil system. Trial for ignition must not exceed 15 seconds and the main burner trial for ignition must not proceed until the pilot flame is proven.

(b) *Feedwater control.* Automatic feedwater control subsystems must sense, at a minimum, boiler water level and steam flow.

(c) *Combustion control.* Automatic combustion control subsystems must provide—

(1) An air/fuel ratio which ensures complete combustion and stable flame with the fuel in use, under light off, steady state, and transient conditions; and

(2) Stable boiler steam pressure and outlet temperatures under steady state and transient load conditions; and

(3) A low fire interlock to prevent high firing rates and superheater damage during boiler warm up.